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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,409	08/19/2003	Ronald Reginald Burgess	M03A201	3444
7590	06/23/2005		EXAMINER	
Ira Lee Zebrak The BOC Group, Inc. Legal Services - Intellectual Property 100 Mountain Avenue Murray Hill, NJ 07974			EL ARINI, ZEINAB	
			ART UNIT	PAPER NUMBER
			1746	
			DATE MAILED: 06/23/2005	

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/643,409	BURGESS ET AL.	
	Examiner Zeinab E. EL-Arini	Art Unit 1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-62 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date: ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/19/03, 03/21/05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 24, 42, and 55, line 2, “the surface” lacks antecedent basis. In claim 1, line 3, “up to about” is indefinite term, because it is not clear if the concentration of hydrochloric acid is above 31% (33, ----40, ---) or it is 31%. It is not clear if 31% is by volume or by weight.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-11, 22-28, 34-36, 42-48 and 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weldon et al. (US 2003/0116276 A1) in combination with Tan (6,810,887).

Weldon et al. disclose a method for removing a metallic layer formed from at least one metal from the surface of a ceramic substrate. The method comprises the

step of immersing the ceramic substrate coated with metallic layer in an acid solution comprising 37% hydrochloric acid for a time to substantially remove the metallic layer therefrom. See paragraphs 7, 31-34, and 54. The references disclose the metallic layer comprises an aluminum coating and a tantalum overlaying the aluminum coating. See paragraphs 54-55. The reference also discloses the step of annealing the ceramic substrate at an elevated temperature after the immersing step. See paragraphs 44, 54. The limitation of claims 6-7, 28, 36, 48, and 57 are disclosed on page 4, paragraph 44. The reference discloses the immersion time as claimed, see paragraphs 31-34, 44, and 54.

Weldon et al. do not teach the acid concentration is about 31%, and the ratio between water, nitric acid, and hydrofluoric acid, the drying time and temperature as claimed.

Tan discloses a method for cleaning semiconductor fabrication equipment parts. The reference discloses typically, in the prior art, relatively high concentrations of acids and other cleaning agents were used to clean parts. For example, a typical acid bath for quartz cleaning would include 1 part HF, 1 part HNO<sub>3</sub>, and 1 part H<sub>2</sub>O. See col. 2, lines 20-23.

It would have been obvious at the time applicants invented the claimed process to adjust the concentration of the HCl to obtain optimum results. It would have been

obvious for one skilled in the art to use the acids ratio as taught by Tan in the Weldon et al. process to obtain the claimed process, and because it is well known in the art to use acids ratio as claimed. See Tan, col. 2, lines 20-23. It would have been obvious for one skilled in the art to use the drying step, and adjust the drying temperature and time to improve the cleaning process.

***Allowable Subject Matter***

5. Claims 12-21, 29-33, 37-41, 49-54, and 58-62 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record failed to teach the ramping step comprises heating to a first temperature -----; maintaining the first temperature for about an hour; heating to a second temperature-----; heating to a third temperature-----; maintaining the third temperature-----; and allowing to cool to a forth temperature-----, as is now claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeinab E. EL-Arini whose telephone number is (571) 272-1301. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Zeinab E. EL-Arini*  
Zeinab E. EL-Arini  
Primary Examiner  
Art Unit 1746

ZEE  
06/20/05